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PUTTING THE WEATHER REPORTS TO WORK

A radio talk by Arthur J. DeMars, Meteorologist, Weather Bureau, delivered through WRC and 39 other stations associated with the National Broadcasting Company, February 26, 1931.

The subject of long range forecasts is not new, in fact it has always been popular since Biblical times when Joseph was credited with having predicted the Pharaoh's drought. Some of the more skeptical humans since that time accuse Joseph of having no mean knowledge of weather cycles, and have been trying to find out ever since how he did it. From time immemorial prognostications of weather far in advance have been many and in a great variety of forms. They have been based upon practically everything within the range of human imagination including tradition, the fur on the foxes, the ground hog, squirrels gathering their winter food supply, the flight of geese, goose bones--all plain guesswork--with little or no scientific foundation.

We have heard and read much in the last few years about that something called "complex" but we all come into contact every day with one of the greatest "complexes" known without giving it much thought. High and low areas of air pressure wander over the earth's surface giving one place fine picnic weather and another a few miles away anything from a sprinkle to a deluge depending on how a great many factors are involved in the conditions at the time.

A certain condition prevailing over this country in summer will give some places record breaking high temperature, while similarly in winter the temperature will go down to new lows while other sections suffer no discomfort. Sometimes one part of the world will be suffering long periods of dry weather while another place will have the worst floods on record, due to abnormal rainfall.

One of the few even fairly successful attempts at a seasonal prediction is of summer monsoon rains in India. This country is open on both sides to a flow of moist air that has traversed several thousand miles of tropical water, and is baked along its northern boundary by the high Himalaya mountain range which deflects the rainbearing winds along its southern slopes causing these winds to precipitate their moisture on the slopes and on the plains. But there is no other country so favorably situated for making such a forecast as India is.

The present system of daily and weekly forecasts is based on what the weather actually is over large areas including much of the northern hemisphere. By knowing conditions existing a long way from us, which way they are headed, the characteristics of various types of cyclones and anticyclones and what they will do, the forecaster determines what the weather is likely to be today, tomorrow and during the following week. The forecasts made for 36 to 48 hours in advance attain detailed accuracy of 85 percent and over. Outlooks issued each Saturday for the coming week indicate what the weather will be in a general way. They have a reasonable degree of reliability. The Weather Bureau does not attempt to forecast further ahead than one week, because it knows that up to the present time science has not developed any laws of sequence which admit of reliable forecasts

being issued for longer periods ahead.

Weather scientists all over the world are continually looking for the laws back of present conditions which control weather, and are studying other things influencing weather beside temperature, wind, air pressure and other factors ordinarily considered in making the daily forecasts. Correlations found up to this time are all open to question, and nothing has been worked out which can be relied on.

While the country's chief weather scientists who are thoroughly familiar with the complex conditions which constantly change and interact with each other, and are seeking a key to the problem, there is an annual crop of goose-bone prophets who make sensational claims to predict the weather for months and even years in advance. Most of these predictions are a mere guess. Any person with an intelligent knowledge of the conditions that normally occur during a season in a particular place can make forecasts which will be right sometime. If he is lucky he has a chance to be right half of the time, but that is not science, nor is it weather forecasting in any true sense of the word. When the weather can be forecast for long periods in advance, and with reliability and a reasonable degree of accuracy, the Weather Bureau will do it and give the people the benefit of this long sought boon.